Claims:

Subject matter

A method of interpolating color pixel signals from a subsampled color image comprising:

for a particular pixel location in the subsampled image, comparing relative changes in a particular color pixel signal level for two mutually orthogonal directions across said particular pixel location using pixel signal values immediately adjacent to said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the pixel signal values, the relative weights depending, at least in part, on the relative change of pixel signal value level in a particular direction.

2. The method of claim 1, wherein computing a color signal includes relatively weighing the pixel signal values by relatively weighing more heavily the pixel signal values associated with the direction increasing less relatively in pixel signal value level for the particular pixel location.

3. The method of claim 2, wherein the subsampled image comprises an image in RGB color space format.

4. The method of claim 3, wherein the subsampled color image comprises a Bayer pattern.

5. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the R color plane;

the two mutually orthogonal directions comprising the horizontal and vertical directions;

the particular color plane for the color signal value being computed comprises the G plane; and

the particular color for the pixel signal value levels being compared comprises G.

6. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the B color plane;

the two mutually orthogonal directions comprising the horizontal and vertical directions;

the particular color plane for the color signal value being computed comprises the G plane; and

the particular color for the pixel signal value levels being compared comprises G.

7. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the R color plane;

the two mutually orthogonal direction comprising the main diagonal and the secondary diagonal

directions;

the particular color plane for the color signal value being computed comprises the B plane; and

the particular color for the pixel signal value level being compared comprises B hue.

8. The method of claim 7, wherein the interpolation of a blue pixel signal value at a green pixel location is based at least in part on computed B pixel signal value levels for red pixel locations adjacent said green pixel location and also on existing blue pixel locations adjacent said green pixel location in a mutually orthogonal direction to said adjacent red pixel locations in the subsampled color image.

9. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the B color plane;

the two mutually orthogonal directions comprising the main diagonal and the secondary diagonal directions;

the particular color plane for the color signal value being computed comprises the R plane; and

the particular color for the pixel signal value level being compared comprises R hue.

10. The method of claim 9, wherein the interpolation of a red pixel signal value at a green pixel location is based at least in part on computed R pixel signal value levels for blue pixel locations adjacent said green pixel location and also on existing red pixel locations adjacent said green pixel location in a mutually orthogonal direction to said adjacent blue pixel locations in the subsampled color image.

11. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the G color plane;

the two mutually orthogonal direction comprising the horizontal and the vertical directions;

the particular color plane for the color signal value being computed comprises the B plane; and

the particular color for the pixel signal value level being compared comprises B hue.

12. The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the G color plane;

the two mutually orthogonal direction comprising the horizontal and the vertical directions;

the particular color plane for the color signal value being computed comprises the R plane; and

the particular color for the pixel signal value level being compared comprises R hue.

13. An article comprising:

a storage medium, having stored thereon instructions, which, when executed by a system capable of executing the instructions, result in interpolating color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing relative changes in a particular color pixel signal level for two mutually orthogonal directions across said particular pixel location using pixel signal values immediately adjacent to said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the pixel signal values, the relative weights depending, at least in part, on the relative change of pixel signal value level in a particular direction.

14. The article of claim 13, wherein the instructions, when executed, further result in interpolating color pixel signal values from a subsampled image in RBG color space format.

15. The article of claim 13, wherein the instructions, when executed, further result in interpolating color pixel signal values from a Bayer pattern image.

16. An integrated circuit comprising;

electronic circuitry adapted to process pixel signal values;

wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing relative changes in a particular color pixel signal level for two mutually orthogonal directions across said particular pixel location using pixel signal values immediately adjacent to said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the pixel signal values, the relative weights depending, at least in part, on the relative change of pixel signal value level in a particular direction.

17. The integrated circuit of claim 16, wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a subsampled image in RBG color space format.

18. The integrated circuit of claim 16, wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a Bayer pattern image.

19. A system comprising;

a computing platform adapted to process pixel signal values;

wherein said computing platfrom is further adapted to interpolate color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing relative changes in a particular color pixel signal level for two mutually orthogonal directions across said particular pixel location using pixel signal values immediately adjacent to said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the pixel signal values, the relative weights depending, at least in part, on the relative change of pixel signal value level in a particular direction.

20. The system of claim 19, wherein said computing platfrom is further adapted to interpolate color pixel signal values from a subsampled image in RBG color space format.